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BASIC RESEARCH

Reporting on health-related research in two prestigious Brazilian newspapers

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OBJECTIVES: The dissemination of health-related news through newspapers can influence the behavior of patients and of health care providers. We conducted a study to analyze the characteristics of health-related research published by two leading Brazilian newspapers.

METHOD: We retrospectively evaluated health-related news published in the electronic versions of the newspapers Folha de São Paulo and O Estado de São Paulo over a period of three months (July through September, 2009). Only articles mentioning medical research were included. The articles were categorized according to topic, source, study location and the nature of the headline. We also analyzed the presence of background information on the topic, citations of medical periodicals, national contextualization and references to products or companies.

RESULTS: Scientific research articles corresponded to 57% and 20% of health-related articles published by Folha de São Paulo and O Estado de São Paulo, respectively. Folha de São Paulo published significantly more articles about national studies, and most articles were written by its own staff. In contrast, most articles in O Estado de São Paulo came from news agencies. Folha de São Paulo also better contextualized its reports for Brazilian society. O Estado de São Paulo tended to cite the name of the periodical in which the study was published more frequently, but their articles lacked national contextualization.

CONCLUSION: The results showed a significant difference in the way in which the studied newspapers report on health-related research. Folha de São Paulo tends to write its own articles and more frequently publishes the results of national research, whereas O Estado de São Paulo publishes articles that originate in news agencies, most of which have little national contextualization.

KEYWORDS: Health communication; Health education; Health promotion; Medical research; Newspapers.

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INTRODUCTION

One of the main goals of health communication is to disseminate information and educate people about health- and disease-related issues. Newspapers play an important role in health communication because they provide people with access to a wide variety of health-related information, including information on disease symptoms, risk factors, available treatments and recommendations for health-promoting behaviors (1).

Medical research is one of the main topics covered in health communication, and scientific information published in popular media appears to influence not only the lay public

but also health care providers and the science community. Medical research covered in the public press receives considerably more citations by other research articles (2).

Scientists and journalists play major roles in the dissemination of health information. However, their perspectives on reporting medical news differ significantly, creating barriers to the effective conveyance of reliable information to the population (3,4). Medical reports covered by journalists have sometimes been criticized for being incorrect, misleading, inadequate and sensationalist (5,6).

Several studies have evaluated the quality of medical research reports covered by the press. These studies have shown that newspapers are more likely to publish reports that have lifestyle implications or that focus on bad news (7,8). In addition, the clinical implications of medical research are usually underemphasized by newspapers (8).

To our knowledge, there have been no studies in Brazil evaluating the quality of newspapers' reports of scientific research on health. The aim of our study was to assess the characteristics of health-related research published by two

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leading Brazilian newspapers, Folha de São Paulo (FSP) and O Estado de São Paulo (OESP).

METHODS

We evaluated health-related news articles published in the electronic versions of the FSP and OESP newspapers in the sections "Equilíbrio e Saúde" and "Vida e Saúde", respectively. In October of 2009, we retrospectively searched for articles published during the period of July 1 through September 30, 2009. Only articles that mentioned medical research were included in our study. Articles shorter than 100 words were excluded because their simplistic structure was a barrier to analysis and categorization.

The analysis of the articles was conducted by two researchers (RAT and MC). Articles were categorized according to topic, source, study location and the nature of the article's headline. We also determined whether the following information was mentioned in the articles: background information on the topic, citation of the medical periodical, national contextualization and references to products or companies.

The nature of the headlines was classified as optimistic, pessimistic or neutral. For instance, the headline "Treating diabetes during pregnancy is beneficial" was classified as optimistic, whereas the headline "Global warming could be disastrous for health" was classified as pessimistic. Reports with headlines such as "Two-thirds of Americans want to receive anti-flu vaccine" and "Scientists find gene that makes primates drink more alcohol" would be classified as neutral because they are not explicitly positive or negative.

The category "study location" refers to the place where the research was conducted. Articles were categorized as national, international-developing countries, international-developed countries and no reference. Multicentric studies were categorized as international-developing countries if a developing country participated in the study.

In the category of "national contextualization", we recorded whether the report mentioned the results of national studies or the implications of the research for Brazilian society. We also analyzed whether the reports included previous results related to the report's subject, which is a pillar of good journalism, or if they only presented the research results without presenting any background information.

In the category "mentions product/company", we analyzed whether a product or company was mentioned in the report in a positive or negative/neutral way.

In case of disagreement between the reviewers regarding the categorization of the article, a third reviewer was called upon to decide.

For statistical analysis, we used the chi-squared test with a significance level set at 0.05. The sample size was calculated using the G-Power program (Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160). Assuming a median effect of 0.3, a power of 95%, an alpha of 0.05 and four degrees of freedom, the required sample size was 207.

RESULTS

The newspaper FSP published 310 health-related articles during the study period. Of these, 176 (56.7%) were related

to scientific research. Sixty-six (37.5%) articles were excluded because they were shorter than 100 words. The newspaper OESP published 495 articles that referenced health; 101 articles (20.4%) were related to scientific research, and none was shorter than 100 words.

In total, 211 articles were eligible for analysis, 110 from FSP and 101 from OESP. There was no disagreement between the reviewers regarding the categorization of the articles; thus, there was no need for a third reviewer.

The topic most frequently published by FSP fit the category "lifestyle, behavior, environment and health", which represented 31.8% of the articles in this newspaper. Infectious diseases were the main topic published by OESP, accounting for 36.7% of the articles. The topics "cancer", "cardiovascular disease" and "brain and mind" were common in FSP, whereas OESP published more "experimental/genetics" articles. "Lifestyle, behavior, environment and health" was also a recurrent subject in OESP. In both newspapers, some articles were classified in more than one category (Table 1).

One hundred and eight articles (98.1%) published by FSP were written by the newspaper staff, whereas OESP had only 3 articles (2.9%) written by the staff. In fact, 94 of the articles (93.1%) published by OESP came from either international news agencies (50 articles) or national news agencies (36 articles from BBC Brasil and 8 articles from Agência Estado).

FSP published more articles about studies conducted nationally (FSP 56.4%; OESP 7.9%; $p < 0.001$). In addition, articles published by FSP had more national contextualization than those published by OESP (FSP 70%; OESP 11.9%; $p < 0.001$). In OESP, even articles that came from a national news agency lacked national contextualization; only 8 articles (18.2%) out of 44 were contextualized nationally.

Background information on the subject reported in the articles was frequently presented by both newspapers, with no difference between them (FSP 72.7%; OESP 63.4%; $p = 0.145$). OESP published more articles with optimistic headlines (OESP 41.6%; FSP 26.4%; $p = 0.019$) and more frequently cited the name of the periodical in which the study was published (OESP 70.3%; FSP 46.4%; $p < 0.001$). In addition, OESP tended to mention products and companies in a positive way more frequently than FSP did, but this difference did not reach statistical significance (FSP 1.8%; OESP 6.9%; $p = 0.066$). These results are detailed in Table 1.

DISCUSSION

Our study showed that a significant proportion of the health news published in both newspapers addresses scientific research and that these newspapers differ in their approach to reporting on this subject. FSP predominantly published articles written by its own journal staff; therefore, its reports were better contextualized for Brazilian society. In contrast, most of the articles published by OESP originated from international news agencies. Even the articles from national news agencies, such as BBC Brasil and Agência Estado, lacked national contextualization.

Previous studies about health journalism have shown that the media prioritize bad news, which might be more appealing to the readers (7,9). Our study found that pessimistic headlines were predominant in FSP, a newspaper for which most articles were written by local staff. Previous studies have also found that journalists are more likely to publish reports that emphasize lifestyle (8,9), which

Table 1 - Results comparing FSP and OESP.

	N° (%) of articles		
Factor	FSP	OESP	p-value
Source			
National news agency	1 (0.9%)	44 (43.6%)	p<0.001
International news agency	0	50 (49.5%)	p<0.001
Journal staff	108 (98.2%)	3 (3.0%)	p<0.001
Freelancer	1 (0.9%)	0	NS
No reference	0	4(4.0%)	NS
Topic*			
Womens health	15 (13.6%)	13 (12.9%)	NS
Childrens health	13 (11.8%)	10 (9.9%)	NS
Mens health	5 (4.5%)	5 (4.9%)	NS
Elderly health	9 (8.2%)	6 (5.9%)	NS
Brain and mind	22 (20%)	20 (19.8%)	NS
Overweight/Obesity	14 (12.7%)	4 (4.0%)	p=0.002
Dyslipidemia	11 (10%)	1 (1.0%)	p=0.005
Cardiovascular disease	24 (21.8%)	6 (5.9%)	p=0.001
Cancer	24 (21.8%)	13 (12.9%)	p=0.036
Infectious disease	8 (7.3%)	37 (36.7%)	p<0.001
Lifestyle, behavior, environment and health	35 (31.8%)	29 (28.7%)	NS
Experimental/genetics	0	28 (27.7%)	p<0.001
Other	9 (8.2%)	2 (2.0%)	p=0.043
Study Location			
National	62 (56.4%)	8 (7.9%)	p<0.001
International - developing countries	0	6 (5.9%)	p=0.018
International - developed countries	45 (40.9%)	84 (83.2%)	p<0.001
No reference	3 (2.7%)	3 (3.0%)	NS
Nature of headline			
Optimistic	29 (26.4%)	42(41.6%)	p=0.019
Pessimistic	61 (55.4%)	34(33.7%)	p<0.001
Neutral	20 (18.2%)	25(24.7%)	NS
Periodical citation			
Mentions periodical	51 (46.4%)	71 (70.3%)	p<0.001
Mentions only institution and/or researcher	59 (53.6%)	30 (29.7%)	p<0.001
No reference	0	0	NS
National contextualization			
Yes	77 (70.0%)	12 (11.9%)	p<0.001
No	33 (30.0%)	89 (88.1%)	p<0.001
Includes background information on the subject			
Yes	80 (72.7%)	64 (63.4%)	NS
No	30 (27.3%)	37 (36.6%)	NS

Legend: NS: non-significant; * some articles were classified in more than one category and percentages may add up to more than one hundred.

is in line with the results of our study. These findings help to deconstruct the assumption that health journalism focuses mainly on diseases.

It is interesting that “infectious diseases” was a common topic, especially in OESP. However, only five articles (11.1%) on this topic addressed neglected diseases, such as malaria and tuberculosis, which are highly prevalent in Brazil. Of the 45 articles about infectious diseases published in both newspapers, 21 (46.7%) were about influenza, most likely because the period covered by our study coincided with the peak of the H1N1 influenza epidemic throughout the world.

Health communication currently faces many difficulties that may jeopardize the quality of medical news (10-12). An increasing number of reports published in the media—as many as 70%—come from news agencies (10). Health-related reports in the media usually do not address controversies about these topics, which is a crucial part of the scientific process (13).

Of all areas in science journalism, the field of health journalism is most commonly addressed by the press and has grown the most in the past two decades (14). This phenomenon can be referred to as “the medicalization of scientific communication” (15).

The intention of this study was to reveal how scientific research is reported by both two prominent newspapers. We hope that our findings will contribute to the development of better strategies to improve health communication and health promotion in Brazil. We would like to reiterate the suggestion by Bartlett et al. (7) and invite the editors of the newspapers analyzed in this study to publish our results.

AUTHOR CONTRIBUTIONS

Teixeira RA contributed to the conception of the study, data collection, analysis of the results, discussion and writing of the manuscript. Carlini M contributed to the conception of the study, data collection, analysis of the results and discussion. Jatobá-e-Sousa AC contributed to the data collection, analysis of the results, discussion and writing of the manuscript. Fernandes PT and Camargo VR contributed to the discussion and writing of the manuscript. Vogt C provided relevant information to the discussion. Li LM contributed to the conception of the study, analysis of the results and discussion.

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